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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR        | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|-----------------------------|---------------------|------------------|
| 10/797,297   | 03/09/2004  | Ajith Kuttannair Kumar      | 20-LC-2057-2        | 4437             |
| 23413 7590 08/30/2010<br>CANTOR COLBURN, LLP<br>20 Church Street<br>22nd Floor<br>Hartford, CT 06103 |             |                             |                     |                  |
| EXAMINER<br>JEN, MINJEN  |             |                             |                     |                  |
| ART UNIT<br>3664   |             | PAPER NUMBER                |                     |                  |
| NOTIFICATION DATE<br>08/30/2010  |             | DELIVERY MODE<br>ELECTRONIC |                     |                  |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

usptopatentmail@cantorcolburn.com

**Office Action Summary****Application No.**

10/797,297

**Applicant(s)**

KUMAR, AJITH KUTTANNAIR

**Examiner**

IAN JEN

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 July 2010.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-32 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-32 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 08 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO/SI/08)  
Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Interval Patent Application  
6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Amendment***

1. This action is in response to the remark entered on July 7<sup>th</sup>, 2010
2. Claims 1 - 32 are pending in the application.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 6 - 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Obara et al (US Pat NO. 5,661,380) in view of Park et al ( US Pat No 6181093).

As for claim 1, Obara et al shows a method for detecting a rotational velocity of a traction motor in a vehicle comprising: obtaining a traction motor signal having at least one phase, wherein traction motor signal is responsive to an operating condition of traction motor ( Column 3, lines 42- 47; Column 4, lines 40- Col 5, lines 25; Fig 1; Speed Sensor 6 which obtain the motor input signal which respond to motor 4 in two outputs 6a, 6b ); processing traction motor signal to create an indication result based on a frequency of traction motor signal ( Column 3, lines 63 - Column 4, lines 13; Fig 1, primary frequency command generating means 20;

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alternating current command generating means 80, PWM signal generating means 90 ); and determining rotational velocity of traction motor based on indication result ( See Fig 1, three phase alternating current motor 4, speed sensor 6, current sensor 7, accelerator sensor 8, rotating angular speed detecting means 10; Column 3, lines 30 -50 ). Obara et al is silent regarding motor signal is responsive to motor in an electrically unexcited state. Park et al shows motor signal is responsive to motor in an electrically unexcited ( Col 1, lines 49 – 57; Col 6, lines 32 – 45; Col 6, lines 66 – Col 7, lines 9 ).

It would have been obvious for one of ordinary skill in the art to provide signal responsive to unexcited measurement, to the feedback trigger of Becerra, in order to provide a rotational velocity detection method.

As for claim 6, Obara et al shows converting traction motor signal into a two-phase signal responsive to traction motor signal (See Fig 1, speed sensor 6a, 6b; Column 4, lines 18 - 22).

As for claim 7, Obara et al shows processing includes applying two-phase signal to phase locked loop (PLL) circuitry so as to create a PLL signal responsive to the frequency of two-phase signal (See Fig 2, Fig 4; Column 4, lines 37 - 47; Column 7, lines 35-44).

As for claim 8, Obara et al shows processing further includes processing PLL signal so as to create a two-phase unity signal responsive to the frequency of PLL signal( See Fig 1; Fig 2; Column 5, lines 35 - 47; Column 7, lines 20 -34).

As for claim 9, Obara et al shows processing further includes combining unity signal and two-phase signal so as to create indication result (See Fig 1; Fig 2; Column 5, lines 35 - 47; Column 7, lines 20 -34).

As for claim 10, Obara et al shows determining includes comparing unity signal with two-phase signal so as to determine the frequency error of two-phase signal (See Fig 1; Fig 2; Column 5, lines 35 - 47; Column 7, lines 20 -34).

As for claim 11, Obara et al shows indication result is responsive to the frequency of unity signal( See Fig 1; Fig 2; Column 5, lines 35 - 47; Column 7, lines 20 -34).

As for claim 12, Obara et al shows indication result is responsive to the frequency of two-phase signal( See Fig 1; Fig 2; Column 5, lines 35 - 47; Column 7, lines 20 -34).

As for claim 13, Obara et al shows processing traction motor signal includes determining the magnitude of two-phase signal (See Fig 3, Magnitude comparator; Column 5, lines 33-34).

As for claim 14, Obara et al shows processing includes creating indication result wherein indication result is responsive to the magnitude of two-phase signal( See Fig 2, Fig 3, magnitude comparator, voltage utilization improving circuit 74 where the input voltage magnitude is compared and modified before used for generating the PWM signal; Column 6, lines 50-60 ).

***Response to Arguments***

6. In response to applicant's remark that Park et al does not show traction motor is electrically unexcited; Applicant's attention is directed to Park et al, Col 6, lines 32 – 45, where states, "the starting circuit includes a clock generating circuit, an amplifying circuit, and a starting/acceleration mode selecting circuit...the starting circuit. to detect the phase voltage of the unexcited coil at the time of commutation"; applicant's attention is further directed to col 6, lines 66 – col 7, lines 9, where states, "In operation....the unexcited point of each phase of the motor coil in order to detect the pure back electromotive force that is generated on the unexcited phase from among the phases". In this instant case, the unexcited point of the motor coil is the traction motor that is electrically unexcited.

***Conclusion***

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to IAN JEN whose telephone number is (571)270-3274. The examiner can normally be reached on Monday - Friday 9:00-6:00 (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Khoi Tran can be reached on 571-272-6919. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ian Jen/  
Examiner, Art Unit 3664  
/KHOI TRAN/  
Supervisory Patent Examiner, Art Unit 3664